

## ABSTRACT

The invention relates to a process for the preparation of a peracid, perester or diacylperoxide and is characterized in that a mixed anhydride of formula  
5  $R^1[C(O)OC(O)OR^2]_n$  or  $[R^3C(O)OC(O)O]_pR^4$  is contacted with a hydroperoxide of formula  $R^5[OOH]_m$  in the presence of a base, wherein  $R^1$  represents a mono-, di-, tri- or tetravalent  $C_1$ - $C_{19}$  hydrocarbon group, optionally containing one or more hetero atoms,  $n$  is 1-4,  $R^2$  represents a  $C_1$ - $C_{20}$  hydrocarbon group, optionally containing one or more hetero atoms,  $R^3$  represents a  $C_1$ - $C_{19}$   
10 hydrocarbon group, optionally containing one or more hetero atoms,  $R^4$  represents a di-, tri- or tetravalent  $C_1$ - $C_{20}$  hydrocarbon group, optionally containing one or more hetero atoms,  $p$  is 2-4,  $R^5$  represents hydrogen or a mono- or divalent  $C_3$ - $C_{18}$  tertiary alkyl or  $C_2$ - $C_{20}$  acyl group, in which the tertiary alkyl or acyl group may optionally contain one or more hetero atoms,  $m$  is 1 or  
15 2, and if  $R^5$  represents hydrogen,  $m$  is 1, provided that if the hydroperoxide is an  $\alpha,\alpha'$ -dihydroperoxyperoxide, the reaction is not carried out in an inert two-phase solvent system comprising a polar solvent and an apolar solvent. The invention also relates to a hydroxyperacid, hydroxyperester, and hydroxydiacylperoxide obtainable by said process and the use of said  
20 hydroxyperoxides.